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BEACHES ASSESSMENT, CLOSURE, AND HEALTH ACT OF
1990

OCTOBER 22 (legislative day, OCTOBER 2), 1990.—Ordered to be printed

Mr. BURDICK, from the Committee on Environment and Public
Works, submitted the following

REPORT

[To accompany S. 2706]

The Committee on Environment and Public Works to which was referred the bill (S. 2706) to improve the public safety and quality of marine recreational waters having considered the same, reports favorably thereon with an amendment and recommends that the bill, as amended, do pass.

PURPOSE AND SUMMARY

The purpose of the bill is to protect health at coastal beaches from pollutants in water and floatable materials that pose a risk to public health. It is also the purpose of the bill to ensure that the public is adequately notified of any public health risk at coastal beaches.

The bill is designed to coordinate local, State, and Federal efforts in the area of protecting public health at coastal recreation waters and gives the States primary responsibility to implement those efforts.

In particular the bill requires states to:

Submit to the EPA an inventory which identifies coastal recreation waters within the State;

Test identified coastal recreation waters for the presence of water pollutants or floatable materials;

Notify local governments of any violations of water pollutant limits or the presence of floatable materials on beaches which constitutes a threat to public health or safety; and

Post signs at bathing beaches to inform the public of the violation and any associated public health risks.

The bill authorizes a set-aside from grants to States under section 106 of the Clear Water Act to support these activities.

The bill requires the EPA to publish regulations which establish:

Numerical limits for pathogens in coastal recreation waters which are adequate to protect public health;

Uniform assessment and monitoring procedures for floatable materials and specific conditions under which the presence of floatable materials constitutes a public health threat;

Monitoring procedures based on frequency and periods of use that include methods for detecting short-term increases in pathogenicity;

The EPA also is to conduct a study, in cooperation with NOAA, in search of improved indicators for detecting bacteria and viruses in coastal recreation waters.

BACKGROUND AND NEED FOR THE LEGISLATION

Water quality at our Nation's beaches may pose significant threats to public health. According to the Office of Technology Assessment's 1987 report, *Wastes in Marine Environments*:

bathing in sewage-impacted waters is responsible for relatively high rates of gastrointestinal illness in the United States * * * the number of outbreaks of water-borne disease has been steadily increasing in recent decades.

The OTA report also notes that:

Current techniques to measure marine water quality are probably significantly underestimating the true number of viable pathogens that are entering the marine environment. * * *

The OTA report clearly identifies the problem of inconsistent Federal and State standards for pathogens in coastal recreation waters and the potential threat to public health.

A number of illnesses may result from disease causing organisms (pathogens) found in contaminated coastal waters, including gastroenteritis, cholera, and infectious hepatitis. From the mid 1960's to 1986 Federal guidelines recommended using "total coliforms" (bacteria) and "fecal coliforms" (a specific type of coliform) as indicators to test recreational waters for bacterial contamination.

In 1986 EPA issued new guidelines for States to monitor and test recreational beaches. EPA, in issuing the new guidelines, concluded that the indicator "enterococci" has a better correlation with swimming associated gastrointestinal illness in marine water than fecal or total coliforms. Fecal coliforms, total coliforms, and enterococci are not themselves injurious, but are indicators of pathogenic (bacterial) contamination.

EPA guidelines recommend using the average bacterial counts, of at least five times a month, for determining beach closures. While the guidelines suggest standards for a single sample test, decisions based on single samples are discouraged because of the high risk of single sampling error. Single samples, however, can reveal the water quality instantaneously, which may assist in identifying

short-term pollution events. Because they are based on monthly averages, the EPA guidelines are not designed to detect short-term increases in bacterial contamination (e.g. resulting from combined sewer overflows or storm water runoff after a summer rainstorm) when the public health risk may be greatest. The EPA recommended methodology is not useful for decision makers who need to decide in the middle of the week whether their beaches will be safe for swimming during the coming weekend. Consequently, people may be swimming in waters that pose an unacceptable health risk.

Under the Clean Water Act, States are not required to adopt the EPA guidelines for bacteria. Instead, States are encouraged to use the EPA guidelines in adopting their own enforceable beach quality standards. However, States have acted inconsistently in responding to these EPA guidelines. Many States have not adopted the 1986 EPA criteria, and continue to use EPA's previous guidance criteria. Others have no structured statewide coastal water quality monitoring program at all.

Preliminary results from a 1989 New Jersey Department of Health survey revealed that of 23 States surveyed, 8 (35 percent) had no structured statewide program to evaluate the water quality of areas used for public recreational bathing; 13 (57 percent) had no structured surveillance program (i.e. boat patrols or citizen watch) for public bathing beaches; and 12 (52 percent) had no established criteria for determining bathing beach closures due to unsatisfactory microbiological water quality.

An additional concern is the adequacy of existing pathogenic indicators. Enterococci may not be any more appropriate (and may be an even less appropriate) an indicator for human health risks in marine waters than fecal coliform. There is currently no way to tell whether the bacteria is from human sources (e.g. a break in a sewer line) or whether it is from non-human sources (e.g. runoff from animal populations on nearby lands or waterfowl). Understanding the source is important because there is no demonstrated scientific correlation between non-human source enterococci and human illness. If animal waste is the principal source of enterococci at a given beach and enterococci is the indicator used, officials may be unnecessarily preventing people from swimming in the water.

In addition, the 1986 EPA guidance suggests contaminant levels which would allow 19 out of 1,000 swimmers to experience health problems as a result of bathing. There is a lack of scientific evidence of any correlation between the number of enterococci and the number of fecal coliform in the water. Yet the EPA risk factor of 19 out of 1,000 was extrapolated from the risk level associated with EPA's fecal coliform criteria of 200 fecal coliform per 100 milliliters of water.

Finally, current bacteria indicators (total coliform, fecal coliform, and enterococci) do not detect viruses, which may pose greater health risks. It is estimated that about half the viruses escape the disinfection process at sewage treatment plants that kills off bacteria. While it takes many bacteria to infect the human body, it only takes one or two viruses.

There seems to be no consensus in the scientific community about which indicator is best for assessing human health risks

when swimming in pathogen contaminated beaches. Many experts believe that existing indicators are not adequate that more research needs to be done to find more effective indicators. The reported bill provides for further study of this issue.

SECTION-BY-SECTION ANALYSIS

Section 1: Short Title.—Section 1 provides the short title: the “Beaches Environmental Assessment, Closure, and Health Act of 1990”.

Section 2: Findings.—Section 2 sets forth the congressional findings concerning the increasing demands placed upon coastal recreation waters, which have contributed to a decline in coastal water quality, and the reasons why monitoring coastal recreational waters and notifying the public of health risks due to pathogens and floatable materials would enhance public health and safety at our Nation’s coastal recreation waters.

Section 3: Coastal Beach Quality.—

Section 3 amends title IV of the Clean Water Act by establishing a coastal recreation water monitoring and public notification program.

Subsection (a) of section 3 requires all coastal States to conduct an inventory of coastal recreation waters within the State and submit the inventory to the EPA for approval. The inventory must include a description of coastal waters designated for swimming, bathing, or body contact pursuant to section 303 of the Clean Water Act, but not not define all those waters designated under section 303 as coastal recreation waters. This section also requires each State to provide for public review and at least one public hearing on the draft inventory. In this way, the inventory provides a basis for determining those beaches within the State where monitoring and public notification of beach conditions and water quality will occur.

In response to the concern that inconsistent State beach water quality standards, monitoring procedures and procedures for notifying the public (or closing beaches) when the water is unsafe represents a public health risk, subsection (b) of section 3 requires the EPA to establish numerical limits and monitoring procedures to be used by all coastal States. Specifically, the regulations shall include:

Numerical limits for pathogens to be used in monitoring, based on any reasonably anticipated exposure to pathogens, where “any reasonably anticipated exposure” refers to the extent of exposure (how often body contact with the water occurs and how long body contact occurs with each exposure episode);

Uniform assessment and monitoring procedures for floatable materials and conditions under which floatable materials threaten public health or safety; and

Uniform monitoring procedures, which include methods for detecting short-term increases in pathogenicity, based on when and how often the waters are used for public recreation and the proximity of the waters to pollution sources.

This subsection also requires States to notify local governments and the public of any violation(s) of pathogenicity limits or if floatables are posing a threat to public health and safety. States are required to notify a local government official who has jurisdiction of the beach under violation of the occurrence, nature, and extent of the violation(s). Notification of violation(s) will establish, over time, a record of the types of violations that can assist local planning and other agencies in making future decisions with respect to reducing the pollution sources. States are also required to post signs at those beaches where a violation occurs, notifying the public of the potential health risk associated with the violation.

In addition, it is the Committee's intent that the regulations acknowledge anticipated pollution events in determining when to notify the public of unsafe or potentially unsafe water quality. An anticipated pollution event may occur, for example, when there is a history of high levels of pathogens in the water after a rainstorm. In such cases, State officials can reasonably predict that after a rainstorm, the water will be unsafe for swimming or other body contact and may wish to post signs accordingly.

Subsection (b) of section 3 also requires the EPA to review and revise periodically the regulations established under this section.

Subsection (c) defines the term coastal recreation waters to be those "coastal waters commonly used by the public for swimming, bathing, or other similar body contact purposes."

The Committee realizes that EPA guidance to States alone has not been adequate to ensure minimum protection of public health at bathing beaches. To ensure that States will conduct the inventory and implement the regulations to provide a minimum protection of public health at the beach, subsection (d) of section 3 provides funding for coastal States through a set-aside from grants to States under section 106 of the Clean Water Act. The set-aside is established at 5 percent of the State's section 106 grant, or \$100,000, whichever is greater. The Administrator may allow a State to use less than the 5 percent set-aside, but not less than \$100,000, in some cases. Additionally, this subsection requires the EPA to reallocate the funding set-aside to other coastal States if a State is in significant non-compliance with the regulations under this Act. "Significant non-compliance" includes, but is not limited to:

- Failure to submit an inventory; or

- Repeated failures over a period of time of not less than one year, to monitor coastal recreation waters and/or notify local officials or the public of a violation as required by the regulations issued pursuant to this Act.

Subsection (d) of section 3 requires each coastal State to submit an annual report to the EPA described the State's efforts to implement the program, the number and types of violations identified, and the number and types of notifications provided pursuant to this section.

Subsection (e) of section 3 requires the EPA to issue a report to Congress within five years after the date of enactment, and every two years after that, which describes the violations and notifications as reported by each State in subsection (d), trends concerning the amount, extent, and locations of floatable materials in coastal recreation waters and on adjacent beaches. Based on the findings

in the report, EPA is required to make recommendations to Congress concerning the need for additional or revised numerical limits or other criteria or conditions to assure the protection of public health from the presence of pathogens and floatables in and on coastal recreation waters and beaches.

Subsection (f) requires the EPA, in cooperation with NOAA, to conduct a study in search of the best indicators for detecting pathogenic bacteria and viruses in coastal recreation waters. Results of this study will be used to review and revise the current numerical limits for pathogens under this section and EPA shall report to Congress on the findings of the study within three years after enactment of this Act.

Subsection (g) provides an authorization of \$1,000,000 for each of fiscal years 1992-1997 for EPA to carry out the requirements of this Act.

COMMITTEE CONSIDERATION

On June 28, 1990, the Senate Superfund, Ocean, and Water Protection Subcommittee held a hearing on S. 2706. Witnesses included the U.S. EPA, New York, Department of Health, New Jersey Department of Environmental Protection, and the Natural Resources Defense Counsel. In addition, the subcommittee heard from Dr. Victor Cabelli of the University of Rhode Island who directed the study on marine pathogen indicators that led to the 1986 revision of EPA's ambient water quality criteria.

On October 4, 1990, The Environment and Public Works Committee met and adopted S. 2706 with an amendment in the nature of a substitute. The substitute amendment reflected five significant changes. Those changes included:

1. amending title IV of the Clean Water Act instead of title III so that the beach water quality program is distinct from any standards program under title III;
2. shifting the focus from beach closures to public notification of a health threat;
3. requiring States to conduct an inventory of coastal recreation waters;
4. replacing the new grants program with a small set-aside from State grants under section 106 of the Clean Water Act; and,
5. allowing EPA to reallocate any withheld funding under section 106 to other states instead of requiring EPA to implement the program if a state does not.

ROLLCALL VOTES

Section 7(b) of rule XXVI of the Standing Rules of the Senate and the rules of the Committee on Environment and Public Works require that any rollcall votes taken during consideration of this bill be announced in this report. The Committee approved the amendment in the nature of a substitute and the bill as amended by voice vote.

REGULATORY IMPACT

In compliance with section 11(b) of rule XXVI of the Standing rules of the Senate, the committee makes the following evaluation of the regulatory impact of the reported bill. It is expected that the bill will require one regulatory action by the Environmental Protection Agency.

COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment Control Act, requires a statement of the cost of reported legislation prepared by the Congressional Budget Office be included in reports. That statement follows:

CONGRESSIONAL BUDGET OFFICE,
U.S. CONGRESS,
Washington, DC, October 16, 1990.

HON. QUENTIN N. BURDICK,
Chairman, Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for S. 2706, the Beaches Assessment, Closure, and Health Act of 1990.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER.

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: S. 2706.
2. Bill title: Beaches Assessment, Closure, and Health Act of 1990.
3. Bill status: As amended and ordered reported by the Senate Committee on Environment and Public Works, October 4, 1990.
4. Bill purpose: The bill requires coastal states to prepare an inventory of coastal recreational waters within the state. It also directs the Environmental Protection Agency (EPA) to establish water quality criteria for coastal recreational waters and procedures for testing coastal waters. If recreational waters fail to meet EPA or state water quality standards, states would be required to inform the public by posting signs on the beach.

The bill authorizes \$1 million annually over the 1992-1997 period for EPA to set coastal recreational water quality standards, specify testing procedures, and to study methods for detecting bacteria and viruses in coastal waters.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1991	1992	1993	1994	1995
Authorization Level.....		1	1	1	1
Estimated Outlays.....		(¹)	1	1	1

¹ Less than \$500,000.

The costs of this bill fall within budget function 300.

Basis of estimate: For purposes of this estimate, it is assumed that the bill will be enacted early in fiscal year 1991 and that the full amounts authorized will be appropriated for each fiscal year. Outlays have been estimated based on historical spending patterns for similar programs.

6. Estimated cost to State and local governments: S. 2706 requires coastal states to inventory coastal recreational waters, to conduct the water quality tests as determined by EPA, and to notify the public if any areas fail these tests. The bill directs EPA to reserve up to 5 percent of the federal funds allotted to a state for pollution control grants under the Clean Water Act, or \$100,000, whichever amount is greater, to be used for implementing state responsibilities under this bill. Based on 1989 allocations, the maximum grants available to coastal states could range from \$0.2 million (for Rhode Island) to \$14 million (for California). The cost to implement this bill for all coastal states would depend on the type and frequency of testing required by EPA. New Jersey, for example, has a program that tests water quality at about 300 coastal sites weekly during the swimming season. This program costs about \$0.5 million annually.

7. Estimate comparison: None.

8. Previous CBO estimate: On September 25, 1990, CBO prepared a cost estimate for H.R. 4333, the Beaches Environmental Assessment, Closure, and Health Act of 1990, as ordered reported by the House Committee on Merchant Marine and Fisheries on September 13, 1990. That bill contained an authorization for \$3 million in 1991 and 1992 for grants to states, in addition to a \$1 million authorization for EPA to implement the bill. Our cost estimate reflected this higher authorization level.

On October 12, 1990, CBO prepared a cost estimate for H.R. 4333, as ordered reported by the House Committee on Public Works and Transportation on October 5, 1990. That version of the bill contained a \$1 million authorization for 1991 and 1992 for EPA to implement the bill. Our cost estimate reflected this lower authorization level.

9. Estimate prepared by: Kim Cawley.

10. Estimate approved by C.G. NUCKOLS (for James L. Blum, Assistant Director for Budget Analysis).

CHANGES IN EXISTING LAW

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in black brackets, new matter is printed in *italic*, existing law in which no change is proposed is shown in roman:

FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED

(33 U.S.C. 466 et seq.)

* * * * *

TITLE IV—PERMITS AND LICENSES

* * * * *

Coastal Beach Quality

"SEC. 406. (a)(1) Within eighteen months of the date of enactment of this section, each State adjoining any coastal waters shall submit to the Administrator an inventory of coastal recreation waters within such State.

(2) The inventory required by this subsection shall identify coastal recreation waters within such State, including at a minimum, coastal waters adjacent to public beaches or swimming areas.

(3) The inventory shall include a statement and description of coastal waters within such State designated for swimming, bathing, or body contact recreation in standards developed pursuant to section 303 of this Act.

(4) Each State shall provide for public review and comment on the inventory required pursuant to this subsection and, at a minimum, shall provide for at least one public hearing on the draft inventory.

(5) The Administrator shall approve the inventory prepared pursuant to this section if the Administrator determines that such inventory is consistent with the requirements of this subsection.

(6) In a case where a State does not submit an inventory pursuant to this subsection, or such inventory is not approved, the Administrator shall designate coastal recreation waters within such State as soon as practicable, but not later than thirty months from the date of enactment of this section. The Administrator shall provide for public review and comment on the designation of coastal recreation waters and shall provide for at least one public hearing within such State.

(b)(1) Within twenty four months of the date of enactment of this section, the Administrator shall publish regulations to protect the health and safety of persons swimming, bathing, or engaged in other body contact activities in coastal recreation waters identified pursuant to subsection (a) of this section consistent with paragraph (2) of this subsection.

(2)(A) Regulations published pursuant to this subsection shall establish, using the best available scientific information, numerical limits for water pollutants determined by the Administrator to pose a threat to public health and safety as a result of swimming, bathing, or other body contact activities. Numerical limits pursuant to this paragraph shall be sufficient to protect public health and safety as a result of any reasonably anticipated exposure to pollutants in coastal recreational waters. At a minimum, the Administrator shall establish a numerical limit for an indicator of the presence of pathogens in water, using the most accurate available indicator.

(B) In addition to establishing numerical limits for pollutants in water pursuant to subparagraph (A), the Administrator shall establish uniform assessment and monitoring procedures for floatable materials in water and specify the conditions under which the presence of floatable materials shall constitute a threat to public health and safety.

(3) Regulations published pursuant to this subsection shall specify methods and other requirements for monitoring of coastal recreation

waters to determine compliance with numerical limits and conditions established pursuant to paragraph (2) and shall require States to conduct such monitoring. Monitoring requirements established pursuant to this paragraph shall, at a minimum—

(A) specify the frequency of monitoring based on the periods of recreational use of such waters;

(B) specify the frequency of monitoring based on the extent and degree of use during such periods;

(2) specify the frequency of monitoring based on the proximity of coastal recreation waters to pollution sources; and

(D) specify methods for detecting short-term increases in pollutants identified pursuant to paragraph (2).

(4)(A) Regulations established pursuant to this subsection shall require States to notify local governments and the public of any violations of numerical limits or conditions established pursuant to paragraph (2). Notification pursuant to this paragraph shall include, at a minimum—

(i) prompt communication to a designated official of a local government having jurisdiction over land adjoining coastal recreation waters in which a violation pursuant to this paragraph is identified of the occurrence, nature, and extent of such violation;

(ii) posting of signs, for the period during which the violation continues, sufficient to give notice to the public of violation of public health and safety standards by such waters and the potential risks associated with body contact recreation in such waters; and

(iii) in the case of any significant violation, notice by general circulation newspaper serving the area in which the violation occurs and a press release to electronic media providing a clear and readily understandable explanation of the violation and the potential risks associated with body contact recreation in such waters.

(B) Regulations established pursuant to this subsection shall include a definition of "significant violation" which reflects the degree of violation of numerical limits or conditions established pursuant to paragraph (2), the length of the violation, and the number of people potentially exposed to waters in violation.

(5) The Administrator shall review and revise regulations published pursuant to this subsection periodically.

(c) For the purposes of this section the term "coastal recreational waters" refers to coastal waters commonly used by the public for swimming, bathing, or other similar body contact purposes.

(d)(1) In the case of a State required to develop an inventory and implement regulations under this section, the Administrator shall reserve each fiscal year 5 per centum of the sums allotted and available for obligation to each such State under section 106 of this Act, or \$100,000, whichever amount is the greater, for the purposes of conducting or revising the inventory pursuant to subsection (a) of this section and implementing regulations pursuant to subsection (b) of this section.

(2) In a case where the Administrator determines that a State can effectively implement the program required pursuant to this section

for an amount less than 5 per centum of such sums, the Administrator may reserve less than 5 per centum of such funds.

(3) In a case where the Administrator determines that a State is not complying with regulations issued pursuant to this section, the Administrator shall withhold 5 per centum of the sums allotted and available for obligation under section 106 of this Act, or \$100,000, whichever amount is the greater. Sums withheld under this paragraph shall be reallocated among States complying with regulations issued pursuant to this section and States not covered by this section.

(4) Each State implementing a program under this section shall provide to the Administrator an annual report on the actions taken to implement the program, violations identified, and the number and type of notifications provided pursuant to this section.

(e) Not later than 5 years after the date of enactment of this section and biennially thereafter, the Administrator shall provide a report to the Congress which shall—

(1) describe the number and type of violations of numerical limits and conditions and the number and type of notification actions;

(2) describe the amount and extent of floatable materials in coastal recreation waters and the trends in the amount and location of such materials;

(3) provide an evaluation of the State activities to implement this section; and

(4) make recommendations concerning the need for additional numerical limits or conditions pursuant to subparagraph (b)(2) and other actions needed to improve the program pursuant to this section.

(f)(1) The Administrator, in cooperation with the Under Secretary, shall conduct a study to provide additional information to the current base of knowledge regarding indicators for detecting in coastal recreation waters the presence of bacteria and viruses which are harmful to human health.

(2) The Administrator shall provide a report of the findings of such study to the Congress within 3 years of the date of enactment of this section.

(g) There is authorized to be appropriated to the Administrator of the Environmental Protection Agency not to exceed \$1,000,000 for each of the fiscal years 1992-1997 for the administration of this section.